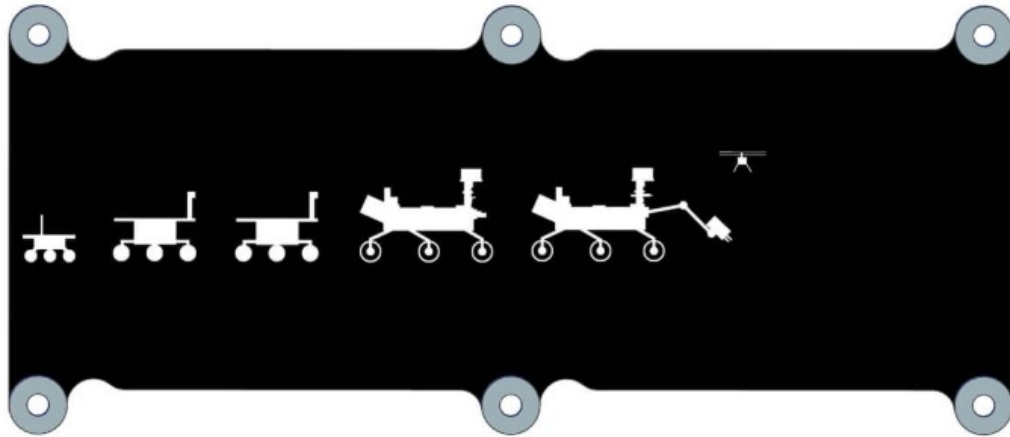


How to draw a Mars Rover: https://www.youtube.com/watch?v=oTPB_wRGyKM&t=2s

The Short Answer:

What are the Mars rovers?

Over the years, NASA has sent five robotic vehicles, called rovers, to Mars. The names of the five rovers are: Sojourner, Spirit and Opportunity, Curiosity, and Perseverance.



This image depicts all of the rovers which have driven on Mars, as well as the Mars helicopter. The artwork is etched onto a metal plate attached to the deck of the Mars Perseverance rover. Credit: NASA/JPL-Caltech

Mars is a fascinating planet. It's icy cold and covered in reddish dust and dirt. Like **Earth**, it has volcanoes, gullies, and flat plains. Scientists can also see channels that look like they were carved by rivers and streams a long, long time ago. Over the years, we've sent four robotic vehicles, or **rovers**, to learn more about Mars. And NASA's fifth Mars rover, **Perseverance**, landed on the Red Planet in February 2021!

1 Sojourner
Mars Pathfinder Mission

Landed on Mars: July 1997
Specialty: Being the first wheeled robot to rove the Red Planet.

Weight: 23 lbs
Top Speed: 0.02 mph
Toolkit: 2 science instruments

2-3 Spirit & Opportunity
Mars Exploration Rovers Mission

Landed on Mars: January 2004
Specialty: Finding evidence of water on Mars.

Weight: 374 lbs (each)
Top Speed: 0.1 mph
Toolkit: 5 science instruments

4 Curiosity
Mars Science Laboratory Mission

Landed on Mars: August 2012
Specialty: Finding out if Mars once had what all life needs: lasting water and the right chemical ingredients.

Weight: 1,982 lbs
Top Speed: 0.09 mph
Toolkit: 10 science instruments

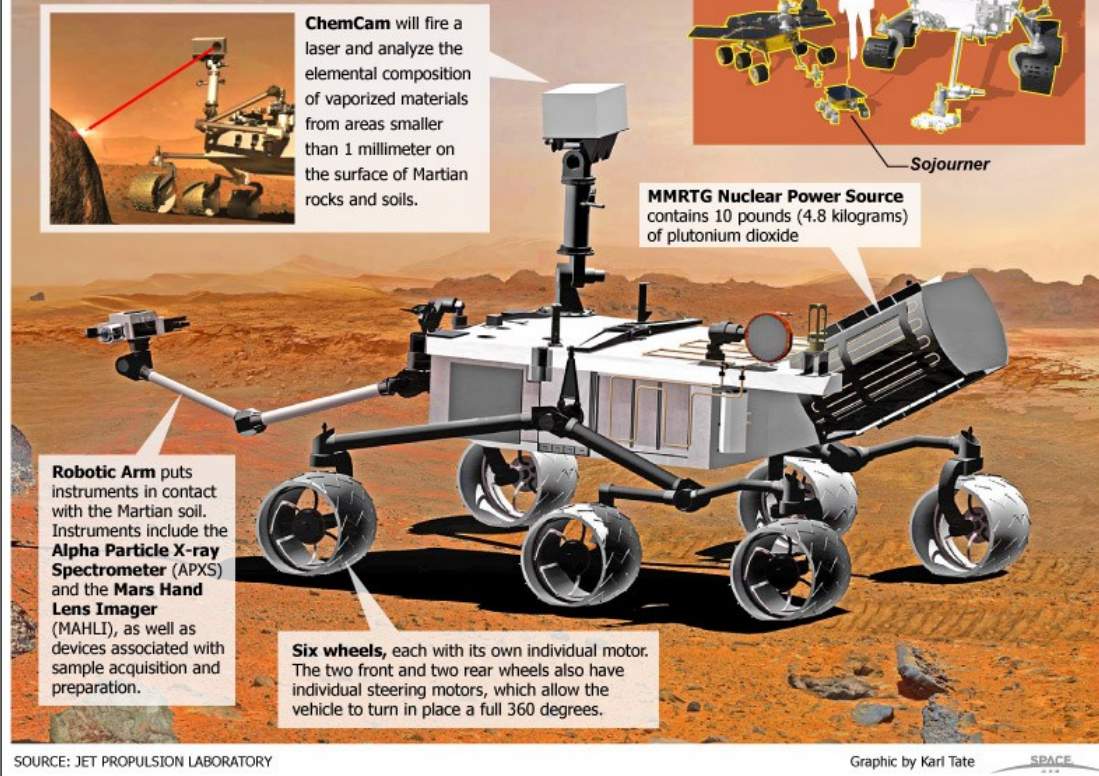
5 Perseverance
Mars 2020 Mission

Landed on Mars: February 2021
Specialty: Look for signs of past or present life — and see if humans could one day explore Mars.

Weight: 2,260 lbs
Top Speed: 0.09 mph
Toolkit: 7 science instruments

“Curiosity” Mars Science Laboratory

With a length of 9 feet (2.7 m) and weight of 1,984 pounds (900 kg), the nuclear powered rover “Curiosity” will carry a payload of scientific experiments more than ten times as massive as earlier Mars rovers.



Rover: A robot vehicle sent to explore other planets or moons. Rovers move around to collect information and take pictures.

Lunar Rover: A special rover used to explore the Moon.

Mars Rover: A rover designed to explore the surface of Mars.

Axle: A straight rod that connects wheels and helps them spin. Rovers use axles to help their wheels turn together.

Wheels: Round parts that help the rover move. Rovers have special wheels designed for rocky or dusty ground.

Mechanical Arm: A moving robot arm that helps a rover collect soil, drill into rocks, or do experiments.

Sensor: A tool that can detect things like heat, movement, or chemicals. Rovers use sensors to study their surroundings.

Camera: A device that takes pictures or videos. Rovers have cameras to help scientists see what the rover sees.

Solar Panel: A flat panel that collects energy from the Sun. Some rovers use solar panels to power their batteries.

Nuclear Battery: Control device - Used to temporarily close a circuit, like ringing a door bell.

Communication System: A system that lets the rover send messages and data back to Earth.

Insulation: Material that keeps the rover’s inside parts safe from very hot or very cold temperatures.

Navigation: The way a rover knows where to go and how to avoid danger. Some rovers can drive themselves using cameras and sensors.

Robotic: Something that is controlled by a computer or machine, not a human.

Exploration: Traveling to learn more about a place. Rovers are used for space exploration.

Spacecraft: A vehicle that travels in space. Rovers are carried to the Moon or Mars by a spacecraft.

Dust Storm: Strong winds that blow dust across the surface of a planet like Mars. These can cover solar panels or damage parts.

Surface: The top layer of the Moon, Mars, or another planet where the rover moves around.

Mission: A special job or trip planned by space agencies like NASA or ESA to explore space.

Sample: A small piece of soil, rock, or dust collected by a rover to study.

Useful Websites:

NASA Scientist (Space Place: Explore Earth and Space!) <https://spaceplace.nasa.gov/mars-rovers/en/>

NASA Scientist (Space Place: Explore Earth and Space! Rover Games) <https://spaceplace.nasa.gov/search/rover/>

National Geographic Kids (Facts about Mars) <https://www.natgeokids.com/uk/discover/science/space/facts-about-mars/>

NASA (10 Things About Curiosity) <https://science.nasa.gov/missions/mars-science-laboratory/10-things-about-mars-curiosity/>

NASA Jet Propulsion Laboratory (Rover Simulation) <https://www.youtube.com/watch?v=P4boyXQuUlw&t=294s>

Story Time from Space (Curiosity: The Story of A Mars Rover) <https://www.youtube.com/watch?v=cacSDQMA29Y&t=27s>